PRINCIPLES & PRACTICES OF SOFTWARE ENGINEERING

Module –I   **8Hrs**
Evolution and impact of Software engineering, software life cycle models; Feasibility study, Functional and Non-functional requirements, Requirement analysis and specification.

Module – II   **10Hrs**
Basic issues in software design, modularity, cohesion, coupling and layering, function-oriented software design, object modeling using UML, Object-oriented software development, user interface design. Coding standards and Code review techniques.

Module III   **12Hrs**
Fundamentals of testing, White-box, and black-box testing, Test coverage analysis and test case design techniques, mutation testing, Static and dynamic analysis, Reliability and Quality management, ISO and SEI CMMI, PSP and Six Sigma. Computer aided software engineering, software maintenance, software reuse, Component-based software development.

Text Book :
Fundamentals of Software Engineering – Rajib Mall. (PHI-3rd Edition), 2009.

References:

1. Ian **Sommerville**, "*Software Engineering***",** 8th Edition, 2007, Pearson Education Inc., New Delhi.
2. Roger S. **Pressman**, "*Software Engineering: A Practitioner's Approach*", 7th International Edition, McGraw-Hill Education (Asia), Singapore.
3. Shari Lawrence **Pfleeger,** Joanne M. **Atlee**, "*Software Engineering*", 3rd Edition (2006) , Pearson Education, Inc. New Delhi.
4. Pankaj **Jalote**, "*Software Engineering*", First Edition, 2009, Wiley India Pvt. Ltd., New Delhi.